

AMENDMENTS TO THE CLAIMS

1-13. (Canceled)

14. (Currently amended) A particulate matter vibro-fluidizing apparatus comprising vibrating means and means for treating the particulate matter,

said vibrating means providing a vibrating motion in a substantially vertical direction,

said means for treating the particulate matter comprising a set of different types of vibrating bodies operating in cooperation with said vibrating means, said vibrating bodies comprising a container having a generally flat horizontal bottom, said container being filled with the particulate matter defining a particulate matter layer, and a vibrating medium installed within the container so that said vibrating medium is at least partially disposed within said particulate matter layer, said vibrating medium being unattached to the container, and

~~wherein vibro-fluidizational behavior of said particulate matter in said particulate matter layer is controlled by~~ said means for treating the particulate matter providing a cooperative vibrating action occurring between said different types of vibrating bodies for controlling vibro-fluidizational behavior of said particulate matter in said particulate matter layer so as to generate circulation in said particulate matter layer by applying vibrations thereto where said particulate matter repeatedly appears at the surface of said particulate matter layer from the bottom of said container.

15. (Canceled)

16. (Previously presented) The particulate matter vibro-fluidizing apparatus of claim 14, wherein the cooperation of the different vibrating bodies of the vibrating means comprises cooperation where the vibrating means is coupled with one of the vibrating bodies, and cooperation where the other vibrating body receives vibrations from the one vibrating body.

17. (Previously presented) The particulate matter vibro-fluidizing apparatus of claim 14, wherein the cooperation of the different types of vibrating bodies of the vibrating means is cooperation coupling with the vibrating means in such a manner that each vibrating body is controlled by an individual vibration.

18. (Previously presented) The particulate matter vibro-fluidizing apparatus of claim 14, wherein the vibrating medium is a porous plate.

19. (Previously presented) The particulate matter vibro-fluidizing apparatus of claim 14, wherein the vibrating medium is an aggregate comprising a plurality of spherical bodies.

20-21. (Canceled)

22. (Previously presented) A particulate matter vibration treatment apparatus having vibrating means and means for treating the particulate matter, said means for treating the particulate matter comprising:

a container having a bottom and operating in cooperation with said vibrating means; and
amplifying means for amplifying vibrations of the container;

wherein said amplifying means comprises a plate being provided inside said container spaced away from the bottom of the container and floating bodies being provided between said plate and the container so as to collide with said plate, and wherein said particulate matter placed on said plate is to be vibration-treated by a cooperative vibration action of vibration due to the amplifying means and vibration of the container.

23. (Previously presented) The particulate matter vibration treatment apparatus of claim 22, wherein the vibrating means cooperates in such a manner as to apply vertical vibrations to the bottom part of the container.

24-25. (Canceled)

26. (Previously presented) The particulate matter vibration treatment apparatus of claim 22, wherein the vibrating means cooperates in such a manner as to apply vertical vibrations to the bottom part of the container.

27. (Previously presented) The particulate matter vibration treatment apparatus of claim 22, wherein the vibration action comprises a cooperative vibration action of vibration due to the amplifying means and vibration of the container.

28. (Previously presented) The particulate matter vibration treatment apparatus of claim 22, wherein the plate is comprised of a rubber sheet, a metal material or a resin material.

29. (Previously presented) The particulate matter vibration treatment apparatus of claim 22, wherein the floating bodies are constituted by a plurality of spherical bodies made of metal, resin or rubber.

30. (Previously presented) The particulate matter vibration treatment apparatus of claim 22, wherein the particulate matter treatment means is used within a vacuum.